

Free Fall



General Aim

Determination of acceleration of gravity (g).

Method

Galileo's method

Learning Objectives (ILOs)

- Verify the equation of motion for an object under constant force.
- Determine the free fall acceleration.

Theoretical Background/Context

Free fall is a special case of a uniformly accelerated motion, where the acceleration is caused by gravitation, and the initial speed is equal to 0 m/s, so the equation of motion will be;

$$g = 2 \frac{y}{t^2}$$

Where, y is the height and t is the duration time of falling.

Principle of Work

Relating the fall time of a body to the height it has fallen from it, will enable us to find the acceleration due gravity.